

Gulls

North Sea

The definition of gulls that this study will use is: Any of numerous long-winged web-footed aquatic birds within the subfamily Larinae of the family Laridae (Gull, 2024). Gulls are in general highly opportunistic omnivores, but primarily feed on fish, marine invertebrates and small mammals

(Calvino-Cancela, 2011; Annett & Pierotti, 1999; Ewins et al., 1994). However, various species gulls also eat fruit and ‘garbage’ if that is a more abundant food source (Calvino-Cancela, 2011; Annett & Pierotti, 1999; Ewins et al., 1994). This study identified 12 species of gulls that can be found in the North Sea (Hamilton, 1981; Courtens & Stienen, 2006; Jongbloed et al., 2023). The most common species of gulls include: Herring gull (*Larus argentatus*), Lesser black-backed gull (*Larus fuscus*), and Greater black-backed gull (*Larus marinus*) (Hamilton, 1981; Courtens & Stienen, 2006; Jongbloed et al., 2023). No invasive species of Gull were found.



History/ Population trends

Not much is known of the origin of Gulls. However, in the last couple of decades an increase can be found on reduction of gull population of almost all species of gull, identified by this study. The most prominent cause of population decline, as suggested by Duijns et al., is mortality because of wind turbines at sea (2020). According to Duijns et al., especially large gulls are at risk of colliding with wind turbines when migrating to different areas, and the numbers of collision victims from wind farms can be predicted using a collision-rate model (Duijns et al., 2020). These predicted collision numbers are modelled using turbine-related parameters (turbine size, rotor height, speed) and species-related parameters (bird density, flight height distribution, flight speed, percentage of time in flight, night activity, wingspan, size, avoidance rate) (Duijns et al., 2020).

Miscellaneous

- The largest species of gull in the world is the Greater black-backed gull (Olsen, 2018). The Greater black-backed gull reaches an average wingspan of 150cm to 170cm and an average weight of 1.5kg to 1.8kg (Olsen, 2018).
- Gulls are most commonly found in marine environments where freshwater is rare. In order to get enough to drink, gulls have evolved a specialized gland that can separate salt from water (Fänge et al., 1958). This allows gulls to drink seawater, instead of freshwater (Fänge et al., 1958).

Diet

- Flatfish (Calvino-Cancela, 2011; Annett & Pierotti, 1999; Ewins et al., 1994)
- Sandeel (Calvino-Cancela, 2011; Annett & Pierotti, 1999; Ewins et al., 1994)
- Sprat (Calvino-Cancela, 2011; Annett & Pierotti, 1999; Ewins et al., 1994)
- Herring (Calvino-Cancela, 2011; Annett & Pierotti, 1999; Ewins et al., 1994)
- Mackerel (Calvino-Cancela, 2011; Annett & Pierotti, 1999; Ewins et al., 1994)
- Crustaceans (Calvino-Cancela, 2011; Annett & Pierotti, 1999; Ewins et al., 1994)
- Other detritivores (Calvino-Cancela, 2011; Annett & Pierotti, 1999; Ewins et al., 1994)
- Annelida (Calvino-Cancela, 2011; Annett & Pierotti, 1999; Ewins et al., 1994)
- Bivalves (Calvino-Cancela, 2011; Annett & Pierotti, 1999; Ewins et al., 1994)
- Starfish (Calvino-Cancela, 2011; Annett & Pierotti, 1999; Ewins et al., 1994)
- Detritus (Calvino-Cancela, 2011; Annett & Pierotti, 1999; Ewins et al., 1994)
- Fruit (Calvino-Cancela, 2011; Annett & Pierotti, 1999; Ewins et al., 1994)
- Small mammals (Calvino-Cancela, 2011; Annett & Pierotti, 1999; Ewins et al., 1994)

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